

Wagon Trail Road Bridge
Spanning the Eau Galle River,
on Wagon Trail Road
Village of Spring Valley
Pierce County
Wisconsin

HAER No. WI-31

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PHOTOGRAPHS

WRITTEN HISTORICAL & DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
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Wagon Trail Road Bridge

HAER No. WI-31

Location: Spanning the Eau Galle River, on Wagon Trail Road,
Village of Spring Valley, Pierce County, Wisconsin

Date of Construction: 1909; moved in 1942

Builder: Worden-Allen Company

Present Owner: Village of Spring Valley

Present Use: Vehicular bridge

Significance: The Wagon Trail Road Bridge is a representative example
of an early riveted version of a Pratt through truss.
The Worden-Allen Company of Milwaukee was one of the
significant bridge-building companies in Wisconsin in
the early part of the century.

Historians: Lola Bennett
Wisconsin Historic Bridge Recording Project
August 1987

Robert Newbery, Historian, Wisconsin Department of
Transportation, provided additional information on
the Worden-Allen Company of Milwaukee

THE WORDEN-ALLEN COMPANY

This company was founded shortly after the turn of the century, while Beverly L. Worden was still construction engineer for Wisconsin Bridge and Iron.¹ The firm may have been more Worden than Allen, as Clarence J. Allen appears to have been associated with the company as secretary-treasurer, from its founding until 1907. Moreover, although the name always remained Worden-Allen, Beverly Worden achieved more prominence by far.²

Worden's father, Albert Lyon Worden, came to Wisconsin from New York in 1848. After the Civil War, he practiced law in Chicago and Milwaukee and dealt in real estate in Milwaukee. Beverly Lyon Worden was born in Chicago in 1871.³

Beverly worked in the Milwaukee Public Library before becoming an engineer. Presumably, he was an apprentice engineer at Wisconsin Bridge and Iron Company, before he sought and received a degree in civil engineering from the University of Wisconsin in 1893.⁴ After getting his degree, he listed himself first as a civil engineer; then, in 1895, as a bridge engineer, and, from 1896 to 1902 as a contracting or construction engineer.⁵ The latter term may refer to a superintendent position with the Wisconsin Bridge and Iron Company.⁶

The Worden-Allen Company was formally incorporated in December 1902. It soon became one of the largest twentieth-century bridge companies in the Midwest, with offices in Chicago, Milwaukee, and Houghton, Michigan. By 1911, the firm had a structural steel capacity of 12,000 to 15,00 tons per year and grossed over one million dollars annually.⁷

Worden-Allen built a number of Warren pony trusses, based on the standardized plans of the State Highway Commission. In 1909, the company also built the first known riveted Pratt overhead truss in Wisconsin. This was a design which the SHC advocated in its 1912 set of standard plans.⁸ Also in 1909, Worden organized a subsidiary bridge company, the Lackawanna Bridge Company, with offices in Milwaukee, Buffalo, and New York. In 1921, Lackawanna also advertised itself as "General Contractors for Fireproof Construction."⁹ In the years prior to World War I, Worden apparently commuted between Milwaukee and the East.¹⁰ The Worden-Allen Company continued to build bridges in Wisconsin as late as 1933.¹¹

During World War I, Worden was called upon by the government to assist in the war effort. As general manager of the Newark Bay Shipyard in Newark, New Jersey, he oversaw the completion of 150 ships for the Emergency Fleet Corporation. He is said to have "turned the preconceived ideas of shipbuilding topsy-turvy." His contribution apparently involved standardized plans and construction techniques.¹²

After the war, Worden became president of Cutler-Hammer, Inc. of New York and Milwaukee, the "foremost business of its kind in the field of electrical controls." He was also a director of Buffalo Sand and Gravel Company.¹³

FOOTNOTES

- 1 At least two sources give the date of founding as 1901. Who's Who in America, p. 2416; Fred L. Holmes, editor, Wisconsin, Chicago, 1946, p. 134. The company did not advertise until 1903. Wright's City Directory for Milwaukee for 1903, pp. 1270, 1321.
- 2 City Directory for Milwaukee for 1907, p. 108, lists only Allen's home address. No affiliation with the company is given. Perhaps, Mr. Allen provided the original capital and Mr. Worden the engineering expertise.
- 3 Holmes, Wisconsin, p. 133. See also: Erving Burdick and Company, Milwaukee City Directory, 1958-1958, p. 292; Edwards Annual Directory for the City of Milwaukee, 1866, pp. 118, 254.
- 4 Beverly Worden is listed as an engineer in 1889 and as a student in 1892. Wright's Milwaukee City Directory, 1889, p. 881; 1892, p. 1001. Sheets 1 and 2 of the plans for the Hewitt Street Bridge, Neillsville, Clark County, built by Wisconsin Bridge and Iron Company in 1892, were checked by "Worden." Sheet 3 was made by "Worden." Copies in possession of the author. The information on the university degree is in Holmes, Wisconsin, p. 134.
- 5 Wright's Milwaukee City Directory, 1893, 1894, pp. 1076, 1099. Worden first lists his association with Wisconsin Bridge and Iron Company in 1900, but he gives the same business address as early as 1897. Wright's Milwaukee City Directory, 1897, p. 1022; 1900, p. 1141.
- 6 Obituary, Milwaukee Journal, March 28, 1931 (in Wisconsin Necrology, v. 29, p. 153).
- 7 George Danko, A Selective Survey, p. 25.
- 8 For a discussion of the SHC standard plans, see the section on Design and Engineering. The riveted Pratt is on Wagon Trail Road in Pierce County, B-47-006.
- 9 Danko, A Selective Survey, p. 25; Engineering News-Record, Vol. 86, No. 26, June 30, 1921; Market Place, p. 126.
- 10 Holmes, Wisconsin, p. 134; Obituary, Milwaukee Journal, March 28, 1931 (in Wisconsin Necrology, v. 29, p. 153).

- 11 The contract for the Wrightstown Bridge, Job No. 3391, was awarded to the Worden-Allen Company for \$158,290.59, on November 14, 1933. State Highway Commission, Minutes, Vol. 18, p. 315.
- 12 Holmes, Wisconsin, p. 134. Obituary, Milwaukee Journal. According to this latter source, Worden's shipbuilding firm was "known as the Submarine Boat Co." and was, at one point, "40 days ahead of schedule in building ships to check the manace of German submarine warfare."
- 13 Holmes, Wisconsin, p. 134. Obituary, Milwaukee Journal.